

Gall Bladder Perforation Secondary to Enteric Fever: An Interesting Case of Acute Abdomen.

Omkarvir Singh¹, Manpreet Kaur²

¹Department of Surgery, Govt. Medical College, Patiala.

²Department of Pathology, Govt. Medical College, Patiala.

Received: September 2019

Accepted: September 2019

Copyright: © the author(s), publisher. It is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Gallbladder perforation usually occur in acute obstructive (calculus) cholecystitis, and its incidence is high in patients with diabetes mellitus, recent severe trauma, critical illness, severe burn. 2-11% patients of acute cholecystitis progress to gallbladder perforation. Acute cholecystitis is a rare complication of enteric fever and perforation of gallbladder in such cases is an uncommon occurrence in pediatric population. Clinical features of spontaneous gall bladder perforation are non-specific especially in children. Ultrasound as well as computerized tomography (CT) abdomen and pelvis lack specificity for detecting gallbladder perforations in enteric fever. Diagnosis is usually confirmed intraoperatively when the gallbladder is visualized and perforation is seen. Hence the treating surgeon must consider this rare condition in differential diagnosis while treating any child with acute abdomen.

Keywords: Enteric Fever, Gall Bladder, Perforation.

INTRODUCTION

Hydatid disease is endemic in farming areas but occurs worldwide. Gallbladder perforation (GBP) is rare in children and is seen as a complication of cholecystitis. Gallbladder stone disease is the most frequent cause of acute cholecystitis and acalculus cholecystitis is seen in only 5%-10% of cases.^[3] The majority of the reported cases of GBP are associated with enteric fever. High level of suspicion, early diagnosis and prompt management are of paramount importance in dealing with this entity.

CASE REPORT

We present a case of 10-year-old male child who presented with fever for 6 days along with pain right hypochondrium for 10 days. Haemoglobin was 10.5 g/dl, platelets count was 96,000/ μ l and WBC count was 1600/ μ l (Neutrophil 64%, lymphocyte 28%). Peripheral smear showed normocytic, normochromic red blood cells with mild anisocytosis, severe leukopenia and mild thrombocytopenia. Liver function test, kidney function test and coagulation profile were in normal range. The Widal test was highly positive for *Salmonella typhi* but X-ray erect abdomen and ultrasound abdomen and pelvis were nonspecific. Contrast enhanced CT showed a

distended gallbladder with gallbladder perforation [Figure 1]. After resuscitation, patient was explored by midline incision. Peritoneal cavity was containing 1 litre of bilious fluid and bowel loops appeared to be normal. On further exploration, gallbladder appeared to be grossly inflamed and there was a single perforation of around 1 cm in size at the fundus. We looked carefully for gallstones in gallbladder, cystic duct and peritoneal cavity but it was not found. Common bile duct appeared to be normal. Cholecystectomy was done and pelvic drain was placed after thorough peritoneal lavage. Post-operatively, intra-venous ceftriaxone and gentamicin were administered for 7 days. There was an uneventful recovery and patient was discharged on 9th post-operative day. Histological examination revealed acute inflammatory infiltrate and transmural necrosis of gallbladder. This is a unique and rare presentation of such a common infectious disease.



Figure 1: Contrast enhanced CT showing Gallbladder perforation.

Name & Address of Corresponding Author

Dr. Manpreet Kaur,
Department of Pathology,
Govt. Medical College,
Patiala.

DISCUSSION

Enteric (typhoid) fever is a systemic disease characterized by fever and abdominal pain and caused by dissemination of *S.typhi* or *S. paratyphi*. It is a common infection in the tropics and one of the common causes of intestinal perforation resulting in high morbidity and mortality.^[1] Acute cholecystitis is a rare complication of typhoid and gallbladder perforation is extremely rare.^[2]

GBP is a rare complication of acute cholecystitis (2%-11%) and is more often seen in patients having critical illness like severe trauma,^[3,4] burns and cardiovascular surgeries. Compared with adult population GBP is even rarer in children and is mainly due to acalculus cholecystitis, trauma, enteric fever, gallbladder wall necrosis due to sepsis or sometimes it may occur spontaneously.^[5,6] The most common part of the gallbladder to perforate is the fundus followed by the body, with the reason being attributed to poor blood supply.^[3] Our patient probably developed GBP due to ischaemia of gallbladder wall due to acute intense inflammation. The majority of the cases of cholecystitis followed by perforation are seen in gallbladder stone disease where the cystic duct often gets occluded, leading to retention of secretions and rise in the intraluminal pressure. Acalculus cholecystitis is seen in 5%-10% of patients with acute cholecystitis and may lead to perforation as seen in our case.^[3] Historically GBP has been associated with a high mortality rate which ranges from 11% to 26% and great care must be taken to diagnose the condition as early as possible.^[7] Generally GBP mimics bowel perforation and many cases are diagnosed intra-operatively. Modalities useful for this condition are USG and CT scan, with the latter being more sensitive.^[3] Abdominal X-ray may not always show free gas in the peritoneum. Reported complications include bile peritonitis, intrahepatic abscess formation (possible mechanisms include direct extension, subcapsular extension and hematogenous dissemination via the portal vein), subhepatic abscess formation, pelvic abscess formation, pneumonia, pancreatitis and acute renal failure.^[8] Once diagnosed GBP mandates early intervention, and cholecystectomy with peritoneal lavage is considered sufficient. It should also be mentioned that one must be very vigilant regarding the complications of GBP like persistent bile leak, persistent peritonitis, gallbladder necrosis, etc. as they may warrant surgical exploration if not responding to percutaneous cholecystostomy.^[6]

Our case is unusual because patient was a child, with no prior history suggestive of gallbladder disease, had no known medical co-morbidity and showed absence of gall stones on ultrasound and surgery.

CONCLUSION

GBP secondary to enteric fever requires a high degree of clinical suspicion, especially in paediatric age group. In typhoid endemic region, it should be considered as a differential diagnosis in patient presenting with history of prolonged fever. High level of suspicion, early diagnosis and immediate surgical intervention are very important in reducing the morbidity and the mortality associated with this condition. Cholecystectomy is the treatment of choice with a good outcome.

REFERENCES

1. Ugawa B.T., Yiltok S.J., Kidmas A.T., Opalaunwa A.S. Typhoid intestinal perforation in north central Nigeria. West Afr J Med. 2005;24:1-6.
2. Jaramillo Samaniego J.G. Acalculous acute cholecystitis during the course of typhoid fever in children. Rev Gastroenterol Peru.2001;21(january- March(1)):36-41.
3. Alvi AR, Ajmal S, Saleem T. Acute free perforation of gall bladder encountered at initial presentation in a 51 years old man: a case report. Cases J. 2009;2:166.
4. Derici H, Kara C, Bozdag AD, Nazli O, Tansug T, Akca E. Diagnosis and treatment of gallbladder perforation. World J Gastroenterol. 2006;12:7832-7836.
5. Pandey A, Gangopadhyay AN, Kumar V. Gall bladder perforation as a complication of typhoid fever. Saudi J Gastroenterol. 2008;14:213.
6. Mirza B, Ijaz L, Saleem M, Iqbal S, Sharif M, Sheikh A. Management of biliary perforation in children. Afr J Paediatr Surg. 1990;7:147-150.
7. Wig JD, Chowdhary A, Talwar BL. Gall bladder perforations. Aust N Z J Surg. 1984;54:531-534.
8. Alghamdi HM. Acute Acalculous Cholecystitis Perforation in a Child Non-Surgical Management. Gastroent Res. 2012;5:174-176.

How to cite this article: Singh O, Kaur M. Gall Bladder Perforation Secondary to Enteric Fever: An Interesting Case of Acute Abdomen. Ann. Int. Med. Den. Res. 2019; 5(6):SG34-SG35.

Source of Support: Nil, **Conflict of Interest:** None declared